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Including 26 regular issues of MACHINE DESIGN plus *The Seals Book*, *The Bearings Book*, *The Ferrous Metals Book*, and *The Electric Motor Book*. Only articles and editorial items one-half page or larger are indexed.

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SUBJECT INDEX

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| AC Motor Control, Part 2: Across-the-Line Starting | | Wickey | 1/5, | 134 | (7.0) |
| 1. Title. | | | | | |
| 2. Author's last name (see Author Index for complete name). Departments in regular issues are denoted by the following code: | | | | | |
| | News | Engineering News | | | |
| | Scan | Scanning the Field for Ideas | | | |
| | DIA | Design in Action | | | |
| 3. Date of issue. MACHINE DESIGN Books are denoted by the following code: | | | | | |
| | S | Seals Book (Jan. 19) | | | |
| | B | Bearings Book (March 30) | | | |
| | F | Ferrous Metals Book (Aug. 3) | | | |
| | E | Electric Motor Book (Dec. 11) | | | |
| 4. Page number. | | | | | |
| 5. Number of pages in article or editorial item. | | | | | |

Electrical and Electronic Drives, Controls and Systems

ELECTRIC MOTORS

| | | | |
|---|-------------|-----------|--------|
| AC Motor Control, Part 2: Across-the-Line Starting | Wickey | 1/5, 134 | (7.0) |
| AC Motor Control, Part 4: Starting Multispeed Motors | Wickey | 2/2, 115 | (7.0) |
| AC Motor Controls, Part 5: Wound-Rotor Motors | Wickey | 2/16, 152 | (8.0) |
| AC Motor Control, Part 6: Characteristics and Control of Synchronous Motors | Wickey | 3/2, 106 | (6.0) |
| Fractional-Horsepower Motors, Part 1: Electrical Considerations | Campbell | 5/11, 196 | (9.0) |
| Fractional-Horsepower Motors, Part 2: Mechanical Considerations | Campbell | 5/25, 123 | (9.0) |
| DC Motor Control, Part 1: Motor Types and Characteristics | Wickey | 7/20, 154 | (6.0) |
| Induction Motors | Sherman | E, 6 | (9.0) |
| Synchronous Motors | Homitch | E, 15 | (7.0) |
| Direct-Current Motors | Wickey | E, 22 | (4.0) |
| Motor Bearings and Lubrication | Fenney | E, 42 | (3.8) |
| Enclosures and Mounting Methods | Lloyd | E, 46 | (7.7) |
| Fractional-Horsepower Motors | Campbell | E, 54 | (14.0) |
| Universal Motors and Motor Parts | Sebok | E, 68 | (8.6) |
| AC Integral-Horsepower Motors | Lamkey | E, 77 | (23.0) |
| DC Integral-Horsepower Motors | Davis | E, 100 | (5.0) |
| Multispeed Motors | Gregory | E, 105 | (3.9) |
| Fractional-Horsepower Gearmotors | Tennerstedt | E, 106 | (4.0) |
| Integral-Horsepower Gearmotors | Burnett | E, 112 | (8.7) |

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| Definite-Purpose Motors | Axthelm | E, 119 | (5.7) |
| Special-Purpose Motors | Schreiber | E, 125 | (4.0) |
| Torque Motors | Roller | E, 129 | (4.0) |
| Instrument Motors | Matthews | E, 133 | (5.0) |
| Timing Motors | Kavanaugh | E, 138 | (10.0) |
| Oil Drawer for Easy Access for Adding Lubricant | Scan | 3/30, 104 | (0.5) |
| Electromagnetic Ratchet Provides Low-Speed Output Drive | Scan | 6/22, 136 | (0.6) |
| Stop and Drive Provided Electromagnetically in DC Stepping Motor | Scan | 9/14, 151 | (0.5) |
| Stator Laminations Permit Winding of a Motor Stator from the Outside | Scan | 9/28, 121 | (1.0) |
| Wires Increase Turbulence for Cooling of Railroad Traction Motor | Scan | 9/28, 122 | (0.5) |
| Reaction Controls Tension in Electric Motor V-Belt | Scan | 10/26, 126 | (1.0) |
| Tapered Motor Rotor Moves Axially Built-In Brake | Scan | 12/7, 143 | (0.5) |
| Camera Unwraps Cylinder | DIA | 11/5, 150 | (1.0) |
| Diesel-Electric Lift Truck | DIA | 11/23, 134 | (2.0) |

POWER SUPPLIES (Batteries, generators, transformers)

| | | | |
|--|------|----------|-------|
| Thermoelectricity: Two More Off the Shelf | News | 2/16, 8 | (0.5) |
| BuShips Backs Research on Sodium Fuel Cell | News | 3/16, 34 | (1.0) |
| AC Power Package Solves Multiple-Motor Starting Problems | News | 3/30, 14 | (1.3) |

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| Thermionic Converter Runs on Everyday Fuels | News | 4/27, 8 | (0.7) |
| Power from Proved Hardware | News | 4/27, 14 | (1.0) |
| Brushless Alternator Has No Rotor Windings | News | 5/11, 34 | (0.6) |
| The Austin Effect: First Step Toward a New Power Source? | News | 6/22, 10 | (0.5) |
| Extra-High Voltage | News | 8/3, 24 | (3.0) |
| Stacked Button Battery Will Power No-Cord Tools | News | 11/9, 14 | (0.5) |
| Half-Million-Amp DC Easy for Homopolars | News | 12/7, 34 | (0.6) |
| Load-Displaced Disc | Scan | 7/6, 123 | (0.6) |
| Transformer in Wheel Eliminates Wire Leads | DIA | 7/20, 153 | (1.0) |
| Pump Steers Crane Barge in Close Quarters | DIA | 9/14, 172 | (2.0) |
| Double-Duty Lens Maintains Image Quality in Economy Projector | DIA | 9/28, 144 | (1.0) |

SWITCHES

| | | | |
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| AC Motor Control, Part 3: Reduced-Voltage Starting | Wickey | 1/19, 137 | (4.0) |
| AC Motor Control, Part 4: Starting Multispeed Motors | Wickey | 2/2, 115 | (7.0) |
| Precision Snap-Action Switches, Part 1 | Froehlich | 3/30, 116 | (0.0) |
| Precision Snap-Action Switches, Part 2 | Froehlich | 4/13, 165 | (9.9) |
| Magnet Actuates a Reed Switch | Scan | 2/16, 129 | (0.5) |
| Floating Plunger Divides Mercury Pool to Open Electrical Circuit | Scan | 4/13, 144 | (0.5) |
| Squeezes Switch Shorts Out Auxiliary Circuit During Rotation of Control Knob | Scan | 4/27, 100 | (0.5) |
| Flow-Deflected Magnet Operates Safety Cut-Off Switch | Scan | 6/22, 136 | (0.4) |
| Triple-Wafer Deck | Scan | 7/6, 122 | (0.3) |
| Pressure Positions Magnet to Operate Flow Sensing Switch | Scan | 9/14, 149 | (0.5) |
| Linked Rockers Prevent Pushing Two Switches at Once | Scan | 9/28, 122 | (0.5) |
| Cams Provide Selective Programming | Scan | 9/28, 127 | (0.5) |
| Heat Drives Piston in Electrothermal Actuator | Scan | 10/26, 129 | (0.5) |
| Knob Doubles as a Knob for a Lever Switch | Scan | 11/9, 161 | (0.5) |
| Pushbuttons Select Programs in Multistation Welder | DIA | 3/2, 101 | (1.0) |

SENSING DEVICES and TRANSDUCERS

| | | | |
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| Visual Failure Indicators | Wood | 3/2, 114 | (2.0) |
| Basic Electronic Controls, Part 1: Transducers and What They Measure | Rulter | 11/23, 139 | (26.0) |
| Motor Thermal Protection | White | E, 38 | (4.0) |
| VORTAC: For Collision-Proof Flight | News | 1/19, 6 | (1.0) |
| Telescope Houses Radar Screen | News | 3/30, 6 | (1.0) |
| Viscous-Damped Switch | Scan | 1/19, 125 | (1.0) |
| Contaminants Complete Circuit in Magnetic-Particle Collector | Scan | 1/19, 126 | (0.5) |
| Pneumatic Pyrometer Gages Gas Temperature | Scan | 2/2, 97 | (0.4) |
| Paired Tape Pulses Measure Shaft Speed | Scan | 2/2, 98 | (0.5) |
| Cam-Controlled Magnet | Scan | 3/16, 140 | (0.5) |
| Frictionless Flexure-Mounting | Scan | 7/6, 124 | (0.5) |
| Weights Snap Washer | Scan | 7/20, 130 | (0.6) |
| Speed-Sensitive Optics | Scan | 7/20, 131 | (1.0) |
| Pulse-Controlled Gate | Scan | 7/20, 132 | (0.7) |
| Two-Plane Measurement in Tool Setting Gage | Scan | 9/28, 126 | (1.0) |
| Toggle Moves Filters to Control Color Coding in Lever Switch | Scan | 10/12, 158 | (0.5) |
| Floating Calliper Supports Gaging Rollers | Scan | 10/12, 161 | (0.5) |
| Flux Deflection Produces Response in Vibration Pickup | Scan | 11/9, 158 | (0.5) |
| Diaphragm Reads Two Dimensions | Scan | 11/9, 160 | (0.5) |
| Magnetic Pick-Off Reads Rack Progress | DIA | 1/5, 141 | (1.0) |
| Tension Regulated by Charging Effective Spring Rate | DIA | 1/5, 146 | (1.0) |
| Static Charge Transfer Checks Dust in Gas | DIA | 1/19, 146 | (1.0) |
| Gate Control, Detects and Removes Foreign Particles | DIA | 3/16, 155 | (1.0) |
| Moving-Belt Still Spots Hot Contamination | DIA | 3/16, 156 | (1.0) |
| Magnetic Wind Detects Oxygen Fractions | DIA | 4/13, 160 | (1.0) |
| Traverse Meter Uses Gyroscope Sensor | DIA | 4/13, 163 | (1.0) |
| Speed and Safety Built into Sealing Unit | DIA | 5/11, 180 | (1.0) |
| More Sophistication in Home Movie Design | DIA | 5/25, 140 | (1.0) |
| Gyro Finds True North from Earth's Spin | DIA | 8/3, 103 | (1.0) |
| Moisture-Content Sensor Controls Clothes Dryer | DIA | 8/17, 154 | (1.0) |
| Controlled Electrolysis Operates Electronic Nose | DIA | 8/17, 182 | (1.0) |
| Light Beam Measures Gas Concentration and Turbidity | DIA | 8/31, 100 | (1.0) |
| NBS Robot Weather Station Transmits Sea Data Stored in Cam | DIA | 9/28, 140 | (2.0) |
| Sharpshooting Light Beam Spots 0.0003 in. Gun Bore Deviations | DIA | 10/26, 155 | (1.0) |

CONTROLS and CONTROL COMPONENTS, other than Switches (Relays, computer controls, regulators, timers, etc.)

| | | | |
|---|--------|------------|--------|
| AC Motor Control, Part 2: Across-the-Line Starting | Wickey | 1/5, 134 | (7.0) |
| AC Motor Control, Part 3: Reduced-Voltage Starting | Wickey | 1/19, 137 | (4.0) |
| AC Motor Control, Part 6: Characteristics and Control of Synchronous Motors | Wickey | 3/2, 108 | (6.0) |
| Synchro Systems | Tata | 6/8, 150 | (6.0) |
| DC Motor Control, Part 2: Circuit Functions of Control Devices | Wickey | 8/3, 118 | (7.0) |
| DC Motor Control, Part 3: Basic Controller Hardware | Wickey | 8/17, 157 | (7.0) |
| DC Motor Control, Part 4: Accessory Devices and Controller Construction | Wickey | 8/31, 104 | (8.0) |
| DC Motor Control, Part 5: Conventional Controls and Their Applications | Wickey | 9/14, 164 | (6.0) |
| Cooling Electronic Equipment | Krauss | 9/14, 202 | (3.5) |
| DC Motor Control, Part 6: Adjustable-Voltage Control | Wickey | 9/28, 150 | (5.7) |
| Basic Electronic Controls, Part 2: Indicators, Recorders, and Controllers | Rulter | 12/7, 171 | (24.0) |
| Motor Thermal Protection | White | E, 38 | (4.0) |
| Ultra-Fast Thin-Film Memories | News | 1/5, 34 | (1.0) |
| Tape Builds a Bridge | News | 2/16, 26 | (2.0) |
| Safety Device Heckles Sleepy Drivers | News | 8/17, 10 | (0.5) |
| Cybertron: Another Thinking Machine | News | 8/31, 8 | (0.7) |
| Fastest Digital Computer Tries Magnetic Film Memory | News | 8/31, 10 | (1.0) |
| Electronic Ignition | News | 12/21, 10 | (0.5) |
| Liquid Contacts | Scan | 1/19, 125 | (0.5) |
| Sliding Sleeve Compensates Thermostat Response Rate | Scan | 3/30, 104 | (0.5) |
| Chopped Reflected Light Detects Presence or Absence of Signal | Scan | 4/27, 111 | (0.4) |
| Variable-Length Fingers Provide Information Storage and Read Out | Scan | 5/11, 170 | (0.6) |
| Light Controlled Potentiometer Provides Noise-Free Volume Control | Scan | 6/8, 139 | (0.5) |
| Residual-Magnetic Core Holds Armature of a Relay | Scan | 9/14, 153 | (0.5) |
| Electromagnetic Lens in Electron-Beam Welder | Scan | 9/28, 125 | (0.6) |
| Heaters Modify Cycling of an Electric Home Furnace | Scan | 11/9, 161 | (0.5) |
| Stressed Glass Shutter | Scan | 11/23, 112 | (1.0) |
| Shock-Absorber Relay | Scan | 11/23, 113 | (0.5) |
| Ball Bearing Memory Programs Handling Sequence | DIA | 7/6, 143 | (1.0) |
| Bang-Bang Controls Guide Sub Simulator | DIA | 7/6, 146 | (2.0) |
| Tape-Controlled Tube Bender Forms Prototype as Tape Is Made | DIA | 8/3, 101 | (1.0) |

INSTRUMENTS, RECORDERS, and METERS

| | | | |
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| Basic Electronic Controls, Part 2: Indicators, Recorders, and Controllers | Rulter | 12/7, 171 | (24.0) |
| Audible Signals | Harris | 11/9, 166 | (9.0) |
| Strain-Gage Rebalancer Bypasses Slide-Wire Faults | News | 1/19, 8 | (1.0) |
| Air Stream Sets Spacing in Film-Disc Memories | News | 5/25, 8 | (0.7) |
| Fallout Meters for the Millions | News | 12/7, 26 | (3.0) |
| Tape Controlled Gage Catches Errors of 0.00001 in. | News | 7/6, 10 | (0.6) |
| Lightbeam Control of Magnetic Tape | Scan | 1/19, 124 | (0.5) |
| Air Film Controls Clearance | Scan | 2/2, 96 | (1.0) |
| Shimless Shimming Obtains High Adjustment Accuracy | Scan | 2/2, 97 | (0.6) |
| Photocell Adjusts Rotary Motion Pick-up | Scan | 2/16, 128 | (0.5) |
| Diaphragm Condenser Plate in Capacitance Bridge Circuit | Scan | 3/30, 105 | (0.4) |
| Infrared Pulses Regulate Speed of Hot Wire | Scan | 3/30, 106 | (0.5) |
| Friction-Free Coil Suspension in Meter Relay | Scan | 4/27, 109 | (0.5) |
| Magnetically Rotated Plates in Magnetic Gage | Scan | 5/25, 113 | (1.0) |
| Magnetic Helix Converts Linear Input to Rotary Output | Scan | 6/8, 142 | (0.5) |
| Coil Actuating Potentiometer in a Galvanometer | Scan | 8/17, 127 | (1.0) |
| Vanes Interrupt Flux to Measure Flow Rate | Scan | 9/14, 150 | (0.5) |
| Air Film Supports Head of Magnetic Drum Recorder | Scan | 9/28, 123 | (1.0) |
| Pointer Shades Photo Cells in Meter Relay | Scan | 10/12, 160 | (0.5) |
| Opposing Circuits Control Lamp | Scan | 11/23, 115 | (0.5) |
| Fluid Pulses Advance Probe in Roughness Tester | DIA | 2/16, 151 | (1.0) |

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| Step Integrator Keeps Running Total for Flowmeter | DIA | 4/13, 164 (1.0) |
| Synthetic Sine Wave Sets Vibration-Meter Reference | DIA | 8/3, 104 (1.0) |
| Gear-Scanning Wheels Read Out Liquid Level | DIA | 9/25, 146 (1.0) |

CIRCUIT COMPONENTS (Capacitors, resistors, semi-conductors, rectifiers, etc.)

| | | |
|---|------|------------------|
| Fixed Capacitors | Wood | 6/22, 166 (2.0) |
| Preventing Electronic Hot Spots | Wood | 7/6, 130 (4.0) |
| Cryogenic Magnets May Foster New Fusion Experiments | News | 2/16, 12 (0.5) |
| First Job for the Laser: Optical Radar | News | 3/16, 10 (0.7) |
| Diminutive Duo of Diodes | News | 3/16, 12 (0.5) |
| Field-Effect Transistor Promises High Reliability | News | 4/3, 10 (1.0) |
| Magnets Support Sheet Metal in Shearing Operations | Scan | 8/3, 83 (0.5) |
| Cryogenic Coil Generates 49,000-Gauss Field | News | 10/12, 6 (0.7) |
| Quartz Resonator Stays Stable at 535 C | News | 12/7, 14 (0.5) |
| Multiple-Turn Potentiometer | Scan | 10/26, 127 (0.5) |
| Distorted Waveform in Constant Voltage Transformer | Scan | 10/26, 130 (1.0) |
| Rectifier Halves Voltage | Scan | 12/7, 140 (0.5) |

LAMPS, HEATING ELEMENTS

| | | |
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| Electric Heating Elements | Rolama | 3/30, 146 (1.5) |
| Edge-Lighted Panels | Wood | 7/20, 160 (2.0) |
| Indicator Lights | Seminara | 10/26, 160 (2.8) |
| Lighting with Electroluminescent Lamps | Stone | 11/9, 208 (3.1) |
| Translucent Ceramic Withstands Higher Temperatures, Pressures | News | 2/16, 14 (0.7) |
| Xenon Lamp Outshines the Sun | News | 12/7, 12 (0.6) |
| Coil-Current Sequence Is Synchronized to Tube Speed for Localized Heating | Scan | 4/27, 111 (0.6) |
| Cloth Forms Element in Electric Heater | Scan | 10/12, 159 (0.5) |
| Rotating Reflector Eliminates Hot Spots in Short-Wave Cooker | DIA | 6/8, 172 (2.0) |

CONNECTORS, CONTACTORS, WIRING

| | | |
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| Coded Wire Terminations | Wood | 2/16, 160 (1.0) |
| Selection Criteria for Electrical Insulation | Moses | 4/13, 190 (0.8) |
| Microsystem Electronics | Myers | 8/17, 178 (5.4) |

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| Temperature Rise and Insulation | Bradbury | E, 31 (6.7) |
| Near-Perfect Seals for Electronic Parts | News | 2/16, 8 (0.5) |
| Plug-In Packaging for Throw-Away Electronics | News | 3/2, 26 (3.0) |
| High-Damp Laminate Tames Circuit-Board Vibration | News | 3/30, 31 (1.5) |
| High-Density Electronics | News | 5/25, 24 (4.0) |
| Rails Judged Best New Copper Application | News | 4/8, 8 (0.5) |
| Sandwich Modules | News | 8/17, 26 (1.0) |
| Square-Spring Fastener Bites into Wire | News | 9/28, 8 (0.6) |
| Sweep Camera Pinpoints Printed-Circuit Hot Spots | News | 12/21, 30 (1.0) |
| Mercury Slip Ring Provides Constant Contact | Scan | 1/6, 125 (1.0) |
| Retractable Cord Reel | Scan | 1/19, 122 (1.0) |
| Mercury Wiper Arm in Commutating Switch | Scan | 6/8, 138 (1.0) |
| Tab-Actuated Catch | Scan | 7/20, 127 (1.0) |
| Potentiometer Wiper | Scan | 8/3, 82 (0.5) |
| Moving Dimple Forms Contact in a Commutator | Scan | 9/14, 153 (0.5) |
| Printed Circuit Board Holder | Scan | 9/28, 125 (0.4) |
| Black-Light Phone | DIA | 11/23, 137 (1.0) |

PACKAGED SYSTEMS and EQUIPMENT

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| Control Panel Designations | Wood | 2/2, 108 (2.0) |
| Design Considerations for Small Housings | Cade | 5/25, 132 (2.0) |
| Packaging Semiconductor Networks | Kilby | 7/20, 174 (3.2) |
| Control Panel Design | Knuepfer | 9/28, 137 (3.0) |
| Adjustable Speeds from Single Speed Motors | Anon. | 10/12, 196 (6.0) |
| Electric Cooling: Portable and Permanent | News | 3/16, 8 (1.0) |
| AC-Powered Electric Wheel | News | 4/13, 32 (2.0) |
| Solid-State Modules Control Adjustable-Speed Drive Line | News | 6/22, 36 (0.7) |
| Maser Amplifies Light | News | 8/3, 12 (0.5) |
| Compressed Computer Houses 6500 Parts | News | 10/26, 12 (1.0) |
| Pocket-Size Computer Outworks a Desk Calculator | News | 11/9, 34 (0.5) |
| Wire Drawing Bridge Permits Easy Removal of Instrument Module | Scan | 2/16, 126 (1.0) |
| Extruded Electronic Chains | Scan | 11/23, 114 (1.0) |
| Diesel-Electric Powerplant Drives Off-the-Road Hauler | DIA | 4/13, 188 (2.0) |
| Electronic "Spring Rate" Controls Cable Tension on Deep-Sea Winch | DIA | 5/25, 142 (1.0) |

Fluid Drives, Controls and Systems

FLUIDS, LUBRICANTS

| | | |
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| Petroleum-Base Hydraulic Fluids | Leslie | 8/3, 114 (4.0) |
| Synthetic Hydraulic Fluids | Hatton | 10/26, 158 (4.0) |
| Additives in Lubricants | Kaill | 10/26, 170 (2.4) |
| Water-Glycol Hydraulic Fluids | Eismann | 11/9, 193 (3.0) |
| Lubricants | Dunham | E, 21 (10.0) |
| Navy Reports New Successes with Dry-Film Lubrication | News | 8/3, 19 (0.5) |
| Space Vacuum Still Poses Problems | News | 9/28, 12 (0.5) |

CONDITIONERS, PRESSURE VESSELS (Heat exchangers, filters, coolers, etc.)

| | | |
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| Air-Gap Heat Transfer | Gonzales | 2/2, 131 (3.8) |
| Filament-Wound Pressure Vessels | Gorcey | 6/22, 178 (2.9) |
| Cylindrical Pressure Vessels | Feng | 12/21, 151 (2.7) |
| Laboratory Curiosity Tries Out for a Cooling Job | News | 1/5, 14 (0.6) |
| Prosaic Job for a Pulse-Jet Descender | News | 2/2, 32 (0.5) |
| Wiper Blade Heat Exchanger | News | 3/2, 32 (1.0) |
| Thermal Drill Tape the Poles | News | 3/16, 38 (1.0) |
| Final Link for a Deep-Space Oxygen Generator | News | 10/26, 8 (0.5) |
| Oiled Plastic Foam Filters Air | Scan | 4/27, 112 (1.0) |
| Air-Inflated Sleeves Increase Effective Filter Area | Scan | 5/11, 169 (0.5) |
| Magnetized Needles in Oil Filter Trap | Scan | 5/25, 121 (0.4) |
| Air Filter Is Swept by Powered Brushes to Remove Accumulations | Scan | 5/25, 122 (0.5) |
| Oil-Bath Dunking for Filter Panels | Scan | 8/8, 143 (0.5) |
| Filter Positions Seal | Scan | 6/22, 134 (0.6) |
| Fluid Squeezes Bag | Scan | 7/6, 125 (0.5) |
| Fluid Depth | Scan | 7/20, 128 (0.5) |
| Spring Filter | Scan | 8/3, 85 (0.5) |
| Filter Moves Indicator To Show When It Needs Cleaning | Scan | 9/14, 148 (1.0) |
| Dehumidifier Reactivates Desiccant While Running | DIA | 5/25, 141 (1.0) |

CONDUCTORS and FITTINGS (Tubing, hose, pipe, couplings, fittings, etc.)

| | | |
|--|------|-----------------|
| How To Select Self-Sealing Couplings for Hydraulic and Pneumatic Systems | King | 3/16, 146 (0.6) |
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| Latching Action Valve | Scan | 1/5, 121 (0.5) |
| Exhaust Suction on Automobile Muffler | Scan | 1/19, 123 (0.5) |
| Fluidizing Gas Provides Low Friction Support for Powdered Metals | Scan | 3/16, 137 (0.6) |
| Hoop-Constrained Cage Furns Pipe Expansion Joint | Scan | 6/22, 135 (1.0) |
| Wedge-Locked Grooves | Scan | 7/20, 128 (0.5) |
| Hydraulically Connected Equalizers | Scan | 7/20, 133 (0.4) |
| Helically Coiled Lines for Gas and Water | Scan | 8/3, 85 (0.5) |
| Face-Sealed Fitting Uses Pressure | Scan | 8/3, 86 (0.4) |
| Deformed Metal Ring Seals Tube Fitting in Cryogenic Application | Scan | 8/17, 134 (0.5) |
| "Trombone" Hydraulic Fitting | Scan | 8/31, 76 (1.0) |
| Air Jet Gages Bourdon-Tube Deflection | DIA | 1/19, 147 (1.0) |

LINEAR POWER DEVICES (Cylinders, accumulators, intensifiers, actuators, etc.)

| | | |
|---|---------|------------------|
| How To Predict Dynamic Performance of Hydraulic Cylinders | Sachs | 2/16, 161 (6.0) |
| Dynamics of Gas-Operated Mechanisms | Hirsch | 7/20, 171 (3.0) |
| Internally Linked Bellows Joints | Daniels | 9/14, 187 (2.5) |
| B-70 Hydraulics: High Powered and Hot | News | 11/23, 24 (4.9) |
| Two Throttling Rates in Series Valve Arrangement | Scan | 2/16, 129 (0.3) |
| Pressure Clamps Ball in Universal-Position Fixture | Scan | 6/8, 143 (0.5) |
| Hydraulically Connected Equalizers | Scan | 7/20, 133 (0.6) |
| Screw-Controlled Piston | Scan | 8/17, 129 (0.5) |
| Piston Hits Stop in Air Actuated Dispensing Pump | Scan | 9/14, 151 (0.5) |
| Regulators Smooth Pulses To Permit Flow Measurement | Scan | 10/12, 158 (0.5) |
| Vacuum Positions Probe in Through-the-Wall Thermocouple | Scan | 10/12, 160 (0.5) |
| Recirculating Piston Rod in a Hydraulic Actuator | Scan | 10/26, 127 (0.5) |
| Incline Controls Flow in Cylinder Type Fluid Dispenser | Scan | 10/26, 129 (0.5) |
| Self-Powered Lift Spring | Scan | 11/9, 157 (1.0) |
| Flexible Glass Provides Bellows Type Seal | Scan | 11/23, 116 (0.5) |
| Flexible Blades Limit Torque in Hydraulic Coupling | Scan | 12/21, 101 (0.7) |
| Accumulator Slams Car Door After Coal Is Gone | DIA | 3/30, 136 (1.0) |

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|--|-----|------------|-------|
| Turbine-Powered Hydraulics Raise Ladder In Seconds | DIA | 4/13, 162 | (1.0) |
| Drill Rig Walks to Work | DIA | 5/11, 186 | (2.0) |
| Hydraulics, Pneumatics Combine for Snappy Acceleration Unit | DIA | 6/8, 171 | (1.0) |
| Rocking-Horse Aircraft Trainer Gives Pilot Real Pitch and Roll | DIA | 7/20, 148 | (1.0) |
| Sliding Plates Snub Auto-Carrier | DIA | 11/9, 178 | (2.0) |
| Ditch Cleaner with Hydraulic Telescoping Boom | DIA | 11/23, 136 | (1.0) |

PUMPS

| | | | |
|--|--------|------------|-------|
| Hydraulic Pumps and Motors, Part 1: A New, Graphical Method as a Selection Aid | Wilson | 8/17, 135 | (5.0) |
| Hydraulic Pumps and Motors, Part 2: Predicting Performance in Systems.. | Wilson | 8/31, 93 | (4.0) |
| The Mechanical Heart | News | 2/16, 28 | (2.0) |
| Nuclear Rocket Program | News | 6/8, 6 | (1.0) |
| Low-Speed Fan Delivers High-Velocity Air | News | 6/22, 8 | (0.5) |
| Half of Pump Idles During Low-Output Operation | Scan | 3/30, 107 | (0.5) |
| Driving Gears Pump Oil and Transmit Power | Scan | 4/13, 142 | (1.0) |
| Fan-Cooled Bearing Eliminates Plumbing | Scan | 5/25, 119 | (0.5) |
| Half of Output Recirculates in Pump To Provide Double-Acting Output | Scan | 6/8, 139 | (0.5) |
| Clutch Controls Proportions in Dual-Pump Mixer | Scan | 6/8, 140 | (1.0) |
| Movable Pivot Point | Scan | 7/6, 118 | (1.0) |
| Progressing-Cavity Type Rotary Pump .. | Scan | 8/3, 82 | (0.5) |
| Through-Rotor Suction in Impeller of Radial-Flow Pump | Scan | 8/31, 79 | (0.5) |
| Inlet Controls Output of an Axial-Piston Pump | Scan | 10/12, 157 | (1.0) |
| Variable Displacement Hydraulic Pump.. | Scan | 10/26, 131 | (0.5) |
| Whirling Cylinders Transport Fluid | Scan | 12/7, 139 | (1.0) |
| Manifold Valves Change Compressor Operating Mode | DIA | 5/11, 188 | (1.0) |
| Self-Propelled Ballast Cleaner Conditions Railroad Beds on the Run | DIA | 9/14, 176 | (2.0) |

MOTORS

| | | | |
|--|--------|-----------|-------|
| Dynamic Properties of Hydraulic Motors | Hansen | 1/19, 132 | (4.0) |
| Hydraulic Pumps and Motors, Part 2: Predicting Performance in Systems.. | Wilson | 8/31, 93 | (4.0) |
| Beryllium Shows Potential for Lightweight Hydraulics | News | 4/13, 12 | (1.5) |
| Channels Control Turbine Rotation | Scan | 2/16, 128 | (0.5) |
| Rotating Reaction Vanes in Hydraulic Motor | Scan | 3/2, 86 | (1.0) |
| Hydraulic Ratchet Provides Reversible Stepped Rotary-Motion Output | Scan | 8/17, 133 | (1.0) |
| Hydraulic Indexing Motor | Scan | 8/31, 80 | (1.0) |
| Air Is Working Fluid in High-Speed Dynamometer | Scan | 9/28, 127 | (0.5) |
| Short-Stroke Pistons Increase Air-Compressor Output | DIA | 9/14, 171 | (1.0) |

FANS and BLOWERS

| | | | |
|--|----------|------------|-------|
| Fan Performance Indicators | Lipstein | 8/31, 115 | (2.7) |
| Marines Replace "Sitting Ducks" with Flying Variety | News | 8/31, 12 | (0.5) |
| Tube Controls Oil in Fluid Coupling to Regulate Speed of Cooling Fan | Scan | 6/8, 142 | (0.5) |
| Fluid Shear Resistance | Scan | 7/6, 125 | (0.5) |
| Mesh Forms Blades in Centrifugal Blower | Scan | 11/23, 113 | (0.5) |
| Center-Mounted Turbocharger Spool Spins Up 110,000 rpm Tornado | DIA | 9/14, 175 | (1.0) |

O-RINGS and MATERIAL SEALS

| | | | |
|--|------------|------------|-------|
| Seals for Hard Vacuums | Jordan | 5/25, 134 | (5.8) |
| Materials for High-Temperature Seals .. | Hyde | 12/21, 154 | (4.1) |
| Felt Radial Seals | Smith | 8, 6 | (3.0) |
| Radial Positive-Contact Seals | McCray | 8, 9 | (6.0) |
| Clearance Seals | Kuchler | 8, 20 | (4.0) |
| Split-Ring Seals | Shepler | 8, 24 | (8.0) |
| Diaphragm Seals | Taplin | 8, 77 | (6.0) |
| Static O-Ring Seals | Everett | 8, 100 | (3.0) |
| Exclusion Devices | Isenbarger | 8, 15 | (5.0) |
| Hollow Metallic O-Ring | Gastineau | 8, 113 | (2.0) |
| Slippery Rubber Needs No Lubricant | News | 3/30, 12 | (0.7) |
| Standby Metal Seals | Scan | 8/3, 83 | (0.5) |
| Adjustable Metal Lip Seal | Scan | 12/7, 140 | (0.5) |

MECHANICAL SEALS

| | | | |
|-------------------------------------|------------|-------|--------|
| Radial Positive-Contact Seals | McCray | 8, 9 | (6.0) |
| Exclusion Devices | Isenbarger | 8, 15 | (5.0) |
| Clearance Seals | Kuchler | 8, 20 | (4.0) |
| Split-Ring Seals | Shepler | 8, 24 | (8.0) |
| Axial Mechanical Seals | Tunkus | 8, 32 | (12.0) |

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| Sw-Type Axial Mechanical Seals ... | Stevens | 8, 44 | (4.0) |
| Circumferential Seals | Taschenberg | 8, 48 | (3.0) |
| Tapered Sealing Surface Permits Easy Adjustment for Wear | Scan | 6/22, 137 | (0.5) |
| Deflected Flanges Seal in High Pressure Pipe Fitting | Scan | 8/31, 81 | (0.5) |
| Gate Seals Fluid in Shut-Off Valve | Scan | 10/12, 163 | (0.5) |
| Flexure Seal Transmits Motion | Scan | 12/7, 142 | (0.5) |

PACKINGS and GASKETS

| | | | |
|---|-----------|------------|--------|
| Gasket Loads in Flanged Joints | Nolt | 9/28, 128 | (6.7) |
| Plastic Piston Rings | Pillsbury | 9/28, 147 | (3.0) |
| Simple Compression Packings | Main | 8, 51 | (7.0) |
| Molded Packings, Lip Type | Smith | 8, 58 | (10.0) |
| Squeeze-Type Molded Packings | Everett | 8, 68 | (9.0) |
| Nonmetallic Gaskets | Smoley | 8, 83 | (7.0) |
| Nonmetallic Gasket Materials and Forms | Smoley | 8, 90 | (10.0) |
| Metallic Gaskets | Dunkle | 8, 103 | (10.0) |
| Hinged Concentric Rings Float Radially. | Scan | 5/11, 168 | (0.4) |
| Ball Valve | Scan | 10/26, 131 | (0.5) |

DIRECTIONAL CONTROL VALVES

| | | | |
|--|------|------------|-------|
| Piston Releases Ball in Check Valve ... | Scan | 5/11, 170 | (0.4) |
| Spring Flaps Bend | Scan | 7/6, 121 | (0.6) |
| Axial plus Rotary Actuation | Scan | 7/6, 122 | (0.7) |
| Switch Fluid Vaporizes To Disconnect Without Arcing | Scan | 11/9, 159 | (0.5) |
| Ball Indicates Flow | Scan | 11/9, 159 | (0.5) |
| Concentric Hoses Form Valve | Scan | 12/21, 101 | (0.3) |
| Reversible Hydraulic Control | Scan | 12/21, 102 | (1.0) |
| Joysticks Control Dual Motors in Drag-line Excavator | DIA | 3/30, 128 | (2.0) |
| Master Cylinders Keep Slaves in Line ... | DIA | 7/20, 146 | (2.0) |
| Flying Crane Almost Lifts Its Weight in Payloads | DIA | 8/31, 95 | (2.0) |

FLOW-METERING VALVES

| | | | |
|---|------------|------------|-------|
| Matching Servo Valve and Load | Procaccino | 7/6, 148 | (6.0) |
| Servovalves for Force Control | Procaccino | 10/12, 172 | (6.0) |
| Variable Nozzles Boost Efficiency of Chrysler's Turbine | News | 3/16, 14 | (1.3) |
| Limited Travel Sleeve Opens and Closes Valve | Scan | 1/5, 120 | (1.0) |
| Self-Positioned Venturi | Scan | 1/5, 122 | (1.0) |
| Interstage Spring in Servo Valve | Scan | 1/19, 123 | (0.5) |
| Concentric Valves | Scan | 1/19, 124 | (0.5) |
| Compound Venturi Introduces Secondary Fluid into Primary Stream | Scan | 3/16, 140 | (0.5) |
| Tapered Valve Shroud | Scan | 7/6, 119 | (0.4) |
| Fluid-Powered Poppet | Scan | 7/6, 124 | (0.5) |
| Two Rates of Flow | Scan | 7/20, 126 | (0.6) |
| Diaphragm-Controlled Orifice Controls Inlet Valve Of Air Compressor | Scan | 8/3, 84 | (0.5) |
| Plug Retracts Diaphragm in Valve | Scan | 8/17, 131 | (0.5) |
| Ball Valve | Scan | 10/26, 131 | (0.5) |
| Acceleration Positions Diaphragm | Scan | 11/9, 158 | (0.5) |
| Variable Venturi Controls Air and Fuel Flow | Scan | 12/7, 141 | (0.5) |
| Diaphragm Replaces Valve | Scan | 12/21, 103 | (0.5) |
| Air Pulse Meters Fluid Flow | DIA | 1/19, 141 | (1.0) |

PRESSURE-CONTROL VALVES

| | | | |
|--|--------|-----------|-------|
| Pressure Regulators | Karpus | 4/13, 145 | (4.3) |
| Balanced Throttling Valve | Scan | 3/16, 138 | (0.5) |
| Use of Unbalanced Orifice Areas in a Double-Poppet Pressure Regulator .. | Scan | 3/30, 105 | (0.6) |
| Orifices Inside Spool Divide Flow in Valve Regardless of Branch-Line Pressures | Scan | 4/13, 144 | (0.5) |
| Pressure Selects Output of Interconnected Pumps | Scan | 5/25, 121 | (0.6) |
| Pressurized Reaction Plate Doubles as a Dump Valve | Scan | 6/22, 138 | (0.5) |
| Two Rates of Flow | Scan | 7/20, 126 | (0.6) |
| Sequenced Valves Use Fluctuating Pressure to Operate Moisture Drain Valve | Scan | 8/17, 130 | (0.5) |
| Toggle-Controlled Valve | Scan | 8/31, 79 | (0.5) |
| Regulation or Shutoff of a Pressure Regulator | Scan | 9/14, 148 | (0.5) |
| Leak Test Table Uses Ball Valves To Simplify Design | DIA | 1/5, 144 | (2.0) |
| Pushbuttons Select Programs in Multi-Station Welder | DIA | 3/2, 101 | (1.0) |
| Joysticks Control Dual Motors in Drag-line Excavator | DIA | 3/30, 128 | (2.0) |
| Ball Valves Control Flow of Granules in Balloon-Borne Atmosphere Sampler.. | DIA | 8/17, 156 | (1.0) |

INSTRUMENTS and CONTROLS

| | | | |
|--|------|----------|-------|
| Visual Failure Indicators | Wood | 3/2, 114 | (2.0) |
| Wire Matrix Gages Zero-g Liquids | News | 2/16, 10 | (0.6) |

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|---|------|------------|-------|
| Discriminating Accelerometers Break the "Shock Barrier" in Instrumentation. | News | 3/16, 30 | (2.0) |
| Paired Gages Measure Wide Pressure Range | News | 5/11, 12 | (1.0) |
| Oil-Deflected Vane Controls Safety Shut-Off Switch | Scan | 1/5, 123 | (0.5) |
| Drip Stick Measures Liquid Level | Scan | 3/2, 84 | (1.0) |
| Undulated Diaphragm Plates | Scan | 3/2, 85 | (0.4) |
| Choice of Force Ratios Give Accurate Measurement in Several Hydraulic-Pressure Ranges | Scan | 3/30, 198 | (0.5) |
| Ball in Tapered Tube Indicates Flow Rate of Liquid | Scan | 6/8, 144 | (0.5) |
| Spring-Loaded Magnets Sense Diaphragm Movement | Scan | 8/3, 87 | (0.5) |
| Screw-Controlled Piston | Scan | 8/17, 129 | (0.5) |
| Scales on Tape for Gage | Scan | 8/31, 77 | (0.5) |
| Pneumatic Tape Reader Manipulates Stacked Plates to Operate Machine Tool | DIA | 8/17, 150 | (2.0) |
| Mainfold Controls Automatic Clutch in Rambler's E-Stick Shift | DIA | 10/26, 154 | (1.0) |
| Bimetal Liquid-Level Detector | DIA | 12/7, 189 | (1.0) |

PACKAGED SYSTEMS and DRIVES

| | | | |
|---|--------|------------|--------|
| Hydraulic-System Temperatures | Wood | 5/11, 206 | (4.0) |
| High-Pressure Hydraulics | Henke | 6/22, 140 | (6.7) |
| Hydrostatic Transmissions | Wilson | 12/7, 150 | (10.0) |
| Servo Systems for Velocity Control | Hansen | 12/21, 112 | (8.0) |
| Hydrostatic Drive Favors Vehicle, Designer, Operator | News | 2/2, 34 | (1.4) |
| Computing with Air | News | 6/8, 24 | (4.0) |
| Potted Hydraulics | News | 6/8, 30 | (2.0) |
| Above-Water Jet Pushes a Boat | News | 10/26, 6 | (1.0) |
| Air Car Files Door to Door | News | 11/23, 6 | (1.0) |
| B-70 Hydraulics: High Powered and Hot | News | 11/23, 24 | (4.0) |
| Brake Control in a Hydrostatic Drive Electric Lift Truck | Scan | 11/9, 156 | (0.5) |
| Packaged Hydrostatic Transmission Splits Power for Stepless Drive | DIA | 3/16, 157 | (1.0) |
| Two Fluid System for Dynamic Braking | DIA | 3/16, 158 | (1.0) |
| Ball-Piston Hydrostatic Transmission Provides Stepless Ratio Change | DIA | 9/28, 143 | (1.0) |

Mechanical Drives, Controls and Systems

INTERNAL-COMBUSTION ENGINES

| | | | |
|---|------|-----------|-------|
| Selecting Small and Medium-Size Internal-Combustion Engines | Esty | 3/30, 134 | (9.0) |
| Diesel Outboards Position Mobile Rig | News | 4/27, 24 | (2.0) |
| Aluminum Enters Low-HP Race | News | 5/11, 8 | (1.0) |
| Another Go-Around for the Rotary Engine | News | 6/22, 24 | (2.0) |
| High-Frequency Ignition Better Two-Cycle Performance | News | 7/6, 35 | (0.6) |
| The '62 Cars | News | 9/14, 6 | (5.0) |
| Outboards Clear 100 mph Hurdle | News | 10/12, 10 | (0.5) |
| Sleeve and Deck Engine | News | 10/12, 28 | (1.0) |
| Bleed Port, Pail Coil Beat Hard Start in Small Engines | News | 10/26, 28 | (1.0) |
| Army Tests Two-Cycle Multifuel Engines | News | 11/23, 34 | (1.2) |
| Two-Stroke Stern Drive | News | 12/7, 24 | (2.0) |
| Inclined Ports Improve Flow in Diesel-Outboard Scavenge Cycle | DIA | 3/30, 126 | (2.0) |
| Back-to-Back Powerplants Hoard Satellite Fuel | DIA | 6/22, 156 | (1.0) |
| Diesel Outboard Propels South Sea Fire | DIA | 7/20, 150 | (1.0) |
| Diesel Engine Brake | DIA | 12/7, 165 | (1.0) |

POWER SOURCES, other than IC Engines (Turbines, nuclear power, exotic-fuel engines, etc.)

| | | | |
|---|------|------------|-------|
| Power at the Poles | News | 2/2, 24 | (2.0) |
| Fire Trucks Are First with Turbines | News | 2/16, 6 | (1.0) |
| Smallest Turbo-Prop Powers 'Currie Wot' | News | 3/2, 10 | (0.7) |
| Electric Engines for Power in Deep Space | News | 3/16, 26 | (3.0) |
| NASA's Plum Brook Reactor | News | 4/13, 34 | (1.0) |
| Locomotives for Space | News | 4/27, 34 | (2.5) |
| Test Firings Prove Plug Nozzle Feasible | News | 5/25, 14 | (0.5) |
| Battelle Reports Stirling Engine Problems, Progress | News | 6/8, 10 | (0.6) |
| Systems for Nuclear Auxiliary Power | News | 6/22, 32 | (2.0) |
| Jet Assist for the Foot Soldier | News | 7/6, 35 | (0.5) |
| Electricity Boosts Gas-Burner Output | News | 7/20, 28 | (0.6) |
| Solar Cell Matched to Space Sunlight | News | 8/17, 10 | (0.5) |
| Flame Holder Improves Oil-Burner Efficiency | News | 10/12, 8 | (0.5) |
| Five 'Page' Water Still | News | 10/12, 12 | (0.5) |
| Three Men on the Moon | News | 10/12, 24 | (3.0) |
| Flight Tests Near for Electric Space Engines | News | 10/26, 26 | (1.0) |
| Saturn Goes | News | 11/9, 6 | (2.4) |
| Gas-Turbine Engine Tailored to Helicopters | News | 12/7, 30 | (0.7) |
| Airplane Controls Steer Jet-Propelled Yacht | DIA | 10/26, 150 | (2.0) |

CONSTANT-SPEED DRIVES and TRANSMISSIONS

| | | | |
|--|----------|------------|-------|
| Spiroid Gearing Part 1: Basic Design Practices | Nelson | 2/16, 136 | (9.0) |
| Spiroid Gearing Part 3: Materials, Mounting Details, Lubrication | Nelson | 3/16, 185 | (7.0) |
| Reverted Gear Trains | Benson | 6/22, 147 | (4.0) |
| Planetary Gear Train Ratio | Glover | 8/3, 125 | (3.0) |
| The Double-Eccentric Speed Reducer | Barnwell | 8/17, 135 | (3.0) |
| Face-Cam Regulator Adjusts V-Belt Squeeze | Scan | 2/2, 98 | (0.5) |
| Inside-Outside Rollers Drive Plane Parker Packaged Transmission, Redesigned Steering Linkage Simplify Fork Lift Truck Design | DIA | 2/2, 122 | (2.0) |
| Perishing Transporter Erector | DIA | 6/8, 174 | (1.0) |
| | DIA | 11/23, 138 | (1.0) |

ADJUSTABLE-SPEED DRIVES and TRANSMISSIONS

| | | | |
|-------------------------------|--------|-----------|--------|
| Hydrostatic Transmissions | Wilson | 12/7, 150 | (10.0) |
| Turbine Engine, All-Oil Drive | News | 8/3, 6 | (1.0) |

| | | | |
|--|------|------------|-------|
| Four-Wheel Drive Tries a Racing-Car Comeback | News | 8/3, 28 | (1.0) |
| Centrifugal Clutch | Scan | 1/5, 123 | (0.5) |
| Manually Adjusted Planetary | Scan | 3/30, 107 | (0.5) |
| Roller Senses Length of Film Loop in Movie Projector | Scan | 6/22, 139 | (0.5) |
| Dual Worm Wheels | Scan | 7/20, 125 | (1.0) |
| Water-Brake Dynamometer | Scan | 8/3, 87 | (0.5) |
| Ball-Bearing Friction Transmits Torque in Speed Increaser | Scan | 8/17, 128 | (0.5) |
| Closed-Load Controls Output Speed of Large Variable-Speed Drive | Scan | 11/9, 155 | (1.0) |
| Nonfreewheeling Overdrive | Scan | 12/7, 142 | (0.5) |
| Temperature Sensor and Mechanical Integrator Correct Flowmeter Reading | DIA | 8/17, 153 | (1.0) |
| Differential Transmission Mixes Power from Locomotive's Dual Diesels | DIA | 10/12, 184 | (2.0) |
| Wheel-on-Roll Drive Positions Torch Cutter | DIA | 10/12, 188 | (1.0) |
| Automatic Split-Pulley Transmission | DIA | 12/21, 121 | (1.0) |
| Pushbutton Shifting | DIA | 12/21, 124 | (1.0) |

ROLLING-ELEMENT BEARINGS

| | | | |
|--|-----------|------------|--------|
| Thin-Race Bearings | Duguid | 3/2, 87 | (6.0) |
| How Clearance Affects Life of Roller Bearings | Rumbarger | 6/8, 145 | (5.0) |
| Fatigue Life of Ball Bearings | Baniak | 6/8, 190 | (2.2) |
| Selection of Basic Bearing Type | De Hart | B, 4 | (9.0) |
| Bearing Loads | Barnes | B, 13 | (8.0) |
| Lubricants | Dunham | B, 21 | (10.0) |
| Selection of Bearing Types: Rolling Element Bearings | Belanger | B, 31 | (9.0) |
| Ball Bearing Characteristics | Belanger | B, 40 | (7.0) |
| Roller Bearing Characteristics | Belanger | B, 47 | (10.0) |
| Bearing Size Selection | Belanger | B, 57 | (5.0) |
| Bearing Mounting | Barnes | B, 62 | (13.0) |
| Bearing Standards | Staff | B, 129 | (3.0) |
| Bearings Glossary | Staff | B, 132 | (5.0) |
| Motor Bearings and Lubrication | Penney | E, 42 | (3.9) |
| Cross-Spring Bearing Flexes Without Friction | News | 4/13, 8 | (0.7) |
| Pivoted Bearing Races in Traverse Table | Scan | 8/17, 130 | (0.5) |
| Crosswise Rollers Support Shaft | Scan | 11/23, 116 | (0.5) |
| Helical Roller Bearings | Scan | 12/21, 103 | (0.5) |
| Flyweight Spinner Provides Torque for Bearing Test | DIA | 8/31, 97 | (1.0) |

PLAIN and SLEEVE BEARINGS

| | | | |
|---|------------|-----------|--------|
| Pivot Thrust Bearings | Kinsman | 2/2, 129 | (2.0) |
| Selection of Basic Bearing Type | De Hart | B, 4 | (9.0) |
| Selection of Plain Bearings | Wilcock | B, 75 | (11.0) |
| Design Analysis of Plain Bearings | Rippel | B, 84 | (11.0) |
| Plain Bearing Materials and Properties | Hoover | B, 95 | (9.0) |
| Design of Cast Bearings | Carenbauer | B, 104 | (8.0) |
| Design of Strip-Type Bearings | Crankshaw | B, 112 | (7.0) |
| Design of Powder-Metal Bearings | Johnson | B, 119 | (6.0) |
| Design of Thermoplastic Bearings | Mince | B, 125 | (4.0) |
| Motor Bearings and Lubrication | Penney | E, 42 | (3.8) |
| Hydrodynamic Film Cuts Friction in Sintered-Bushing Bearing | News | 3/2, 8 | (0.6) |
| Trapped-Air Thrust Bearing | News | 6/8, 8 | (0.5) |
| Air-Cooled, Self-Aligning Bearing | Scan | 2/16, 127 | (0.5) |
| Bearings Replace King Pin | Scan | 6/22, 138 | (0.5) |

SHAFTS, CLUTCHES, BRAKES, COUPLINGS

| | | | |
|-----------------------------|--------|-----------|-------|
| The Prestressed Shaft | Cawley | 2/2, 99 | (3.0) |
| Positioning Gear Shafts | Wood | 4/13, 175 | (1.0) |
| Shaft-Mounted Disc Clutches | Yokel | 5/25, 160 | (4.1) |

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|--|------------|------------|-------|
| Press-Fitted Shafts | Spotts | 6/22, 151 | (2.0) |
| Stepped Shafts and Nonuniform Benms.. | Hopkins | 7/8, 159 | (6.0) |
| Ball-Bearing Splines | Rowland | 7/20, 142 | (3.6) |
| How To Design Flexible Couplings | Gensheimer | 9/14, 154 | (6.0) |
| Shafts with Integral Bearing Races | Smith | 11/9, 196 | (3.5) |
| Universal Joints | Condon | 11/23, 172 | (3.0) |
| Critical Speeds of Vertically Suspended Shafts, Part 1: Lateral Vibration .. | Primak | 12/21, 104 | (8.0) |
| Nylon Tape Snags Runaway Jet | News | 2/16, 34 | (0.5) |
| Water Ponds Brake Runaway Jets | News | 6/22, 6 | (0.5) |
| Double-Chamfered Ring Guides Self-Aligning Jaw Clutch | Scan | 6/22, 133 | (1.0) |
| Shifting Disc | Scan | 7/20, 130 | (0.5) |
| Groove-Actuated Balls in Air-Driven Wrench | Scan | 8/31, 75 | (1.0) |
| Eccentric Serrated Rings Permit Quick Adjustment in Driver | Scan | 8/31, 81 | (0.5) |
| Metal Diaphragms Transmit Torque | Scan | 12/21, 100 | (1.0) |
| Flexible Blades Limit Torque in Hydraulic Coupling | Scan | 12/21, 101 | (0.7) |
| Liquid-Cooled Brakes Eliminate Aircraft "Hot Boxes" | DIA | 6/22, 155 | (1.0) |

GEARS

| | | | |
|---|----------|------------|--------|
| High-Grade Fine-Pitch Gearing | Thoen | 1/19, 154 | (9.0) |
| Spiroid Gearing, Part 2: Durability, Strength and Efficiency | Nelson | 3/2, 93 | (8.0) |
| High Reduction Hypoids | Baxter | 4/27, 142 | (9.0) |
| Nonstandard Crossed Helical Gears | Glover | 6/8, 156 | (8.0) |
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